

CLAIMS

1. Method for the manufacture of a roof liner (1) with at least one energy absorption element (2) using the following steps:
 - i) provision of a core layer, particularly a plate-shaped one;
 - ii) at least one-sided application of at least one reinforcement layer (4) on one side (16, 17) of the core layer (3);
 - iii) loading of the energy absorption element (2) into a moulding tool (5) and at least the joining of the energy absorption element (2) to the core layer (3) and/or the reinforcement layer (4) during moulding.
2. Method according to Claim 1,
characterised by
the further step of the at least one-sided application of a decorative layer (6) on one side of a sandwich (14) made of at least a core layer (3) and a reinforcement layer (4).
3. Method according to Claim 1 or 2,
characterised in that
the core layer (3) is permanently plastically shaped during the moulding in the moulding tool (5).
4. Method according to one of the preceding Claims,

characterised in that

before step i), the core layer (3) is cut from a prefabricated core layer block.

5. Method according to one of the preceding Claims,
characterised in that
the core layer (3) is foamed before step i).
6. Method according to one of the preceding Claims,
characterised in that
step iii) is carried out before the application of the decorative layer (6) and subsequent to step ii).
7. Method according to one of the preceding Claims,
characterised in that
subsequent to step i), an adhesive (7) and optionally water (8) are applied to the core layer (3).
8. Method according to one of the preceding Claims,
characterised in that
in step ii), a two-layered reinforcement layer (4), particularly of reinforcement matting (9) and cover matting (10), is applied.
9. Method according to one of the preceding Claims,
characterised in that
after application of the energy absorption element (2) in step iii) an adhesive (11) is applied to at least one side of the sandwich (14) formed, before application of the decorative layer (6).

10. Method according to one of the preceding Claims,
characterised in that
before being applied to the sandwich (14), the decorative layer (6) is heated and subsequently laminated to the sandwich (14) in a laminating machine (12).
11. Method according to one of the preceding Claims,
characterised by
simultaneous heat supply in step iii) during the moulding of the supporting base, inside a hot-press (13).
12. Method according to one of the preceding Claims,
characterised in that
in step iii) the energy absorption element (2) is shaped and held in its shaped state by a shape preservation material (15).
13. Roof liner (1) with at least one energy absorption element (2) manufactured according to one of the Claims 1 to 12,
characterised in that
the core layer is formed from a foamed material and the reinforcement layer (4) presents fibres, particularly in a tangled arrangement.
14. Roof liner according to Claim 13,
characterised in that
the energy absorption element (2) is formed from an energy-absorbing, foamed material.
15. Roof liner according to Claim 13 or 14,

characterised in that

the energy absorption element (2) presents at least one structure element or is formed from such an element.

16. Roof liner according to one of the Claims 13 to 15,

characterised in that

the energy absorption element (2) and core layer (3) present the same foamed material.

17. Roof liner according to one of the Claims 13 to 16,

characterised in that

the material of the energy absorption element (2) presents a lower softening temperature than does the material of the core layer (3).

18. Roof liner according to one of the preceding Claims 13 to 17,

characterised in that

the core layer (3) with applied adhesive (7) is duroplastically workable.

19. Roof liner according to one of the preceding Claims 13 to 18,

characterised in that

the adhesive (7) can be applied to both the top and bottom (16, 17) of the core layer (3) by an application device (18).